

Facility Name: **EXIDE TECHNOLOGIES, AKA, GNB TECHNOLOGIES, VERNON FACILITY**  
EPA ID#: **CAD 097 854 541**

### Region 9 Environmental Indicator Signature Page

Environmental indicators (EI) are site-wide determinations, based on the remedial work overseen by all agencies. There will be one overall determination for each EI, which considers the portions overseen by each agency. The final determinations for each EI will be NO or IN, if any portion of the site is IN or NO. To get an overall YES determination, all portions of the site must have YES determinations for each EI.

**EI Determinations for Remedial Activities Overseen by**  
**Department of Toxic Substances Control (DTSC), Permitting Division**

Current Human Exposures Under Control Determination <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> IN	Migration of Contaminated Groundwater Under Control <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> IN
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I (we) agree that the factual information I (we) have provided concerning the remedial activities overseen by the DTSC Permitting Division at this facility, as the basis for this EI assessment is to the best of my (our) knowledge accurate.

**Completed by:**

Name(s) (print)	Agency	Signature	Date
Liang C. Chiang	Cal-EPA/ DTSC	<i>Liang Chiang</i>	6/3/05
Michael Che	DTSC	<i>Michael Che</i>	6/13/05
MITCH KAPLAN	EPA R9	<i>Mitchell Kaplan</i>	6/16/05

**Supervisor:**

Name (print)	Title	Signature	Date
Philip B. Chandler	Supervising HSE Geologist I	<i>Philip B. Chandler</i>	6/3/05

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

**RCRA Corrective Action  
Environmental Indicator (EI) RCRIS code (CA725)**

**Current Human Exposures Under Control**

**Facility Name:** GNB Incorporated (aka Golden State Resources)  
**Facility Address:** 2700 S. Indiana Street, Vernon, CA  
**Facility EPA ID #:** CAD 097 854 541

1. Has **all** available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

  X   If yes - check here and continue with #2 below.  
      If no - re-evaluate existing data, or  
      If data are not available skip to #6 and enter "IN" (more information needed) status code.

**BACKGROUND**

**Definition of Environmental Indicators (for the RCRA Corrective Action)**

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

**Definition of "Current Human Exposures Under Control" EI**

A positive "Current Human Exposures Under Control" EI determination ("YE" status code) indicates that there are no "unacceptable" human exposures to "contamination" (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

**Relationship of EI to Final Remedies**

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Current Human Exposures Under Control" EI are for reasonably expected human exposures under current land- and groundwater-use conditions ONLY, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program's overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

**Duration / Applicability of EI Determinations**

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

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2. Are groundwater, soil, surface water, sediments, or air **media** known or reasonably suspected to be **"contaminated"**<sup>1</sup> above appropriately protective risk-based "levels" (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCs)?

	<u>Yes</u>	<u>No</u>	<u>?</u>	<u>Rationale / Key Contaminants</u>
Groundwater	X			Lead (Pb), TCE, cadmium (Cd), other metals
Air (indoors) <sup>2</sup>	X			Lead/metal dust from facility operation
Surface Soil (e.g., <2 ft)	X			
Surface Water	X			Wastewater settling ponds/Los Angeles River
Sediment	X			Wastewater settling ponds
Subsurf. Soil (e.g., >2 ft)	X			
Air (outdoors)	X			

\_\_\_\_\_ If no (for all media) - skip to #6, and enter "YE," status code after providing or citing appropriate "levels," and referencing sufficient supporting documentation demonstrating that these "levels" are not exceeded.

X \_\_\_\_\_ If yes (for any media) - continue after identifying key contaminants in each "contaminated" medium, citing appropriate "levels" (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.

\_\_\_\_\_ If unknown (for any media) - skip to #6 and enter "IN" status code.

**Rationale and Reference(s):**

*The facility has been operating since 1922. There is extensive lead contamination in groundwater and soil. Lead has been detected in nearby surface water and sediments of the Los Angeles River and wastewater ponds. On various occasions, lead dust has been noted. The maximum lead concentration in the stormwater retention basin sediments are approximately 400,000 mg/kg, (40%). The crushed battery operation inside the building is capable of causing indoor air contamination. Other contaminants include trichloroethylene (TCE) in ground water (maximum concentration 2,600 micrograms/L) and cadmium in soils.*

**References**

*RFI Workplan: Phase I, April 1995*

*RFA, October 1990*

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<sup>1</sup> "Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriately protective risk-based "levels" (for the media, that identify risks within the acceptable risk range).

<sup>2</sup> Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggest that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

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3. Are there **complete pathways** between “contamination” and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

Summary Exposure Pathway Evaluation Table

Potential **Human Receptors** (Under Current Conditions)

<b>“Contaminated” Media</b>	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food <sup>3</sup>
Groundwater	no	no	no	yes			no
Air (indoors)	no	yes	no	yes			
Soil (surface, e.g., <2 ft)	no	no	no	yes	no	no	no
Surface Water	no	yes		yes	yes	no	no
Sediment	no	yes		yes	yes	no	no
Soil (subsurface e.g., >2 ft)		no		yes			no
Air (outdoors)	no	yes	no	yes	yes		

Instructions for Summary Exposure Pathway Evaluation Table

1. Strike-out specific Media including Human Receptors' spaces for Media which are not “contaminated” as identified in #2 above.
2. enter “yes” or “no” for potential “completeness” under each “Contaminated” Media -- Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential “Contaminated” Media - Human Receptor combinations (Pathways) do not have check spaces (“\_\_\_”). While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

\_\_\_\_\_ If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter “YE” status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional Pathway Evaluation Work Sheet to analyze major pathways).

X \_\_\_\_\_ If yes (pathways are complete for any “Contaminated” Media - Human Receptor combination) - continue after providing supporting explanation.

\_\_\_\_\_ If unknown (for any “Contaminated” Media - Human Receptor combination) - skip to #6 and enter “IN” status code.

**Rationale and Reference(s):**

*The facility is located in a heavy industrial area. Nearest residents are 3-4 miles away from the facility limiting any potential contaminant exposure from Exide. There are no day-care centers nearby. Facility sits next to a drainage channel that flows in to Los Angeles river. There has been deposition of lead from the facility into the drainage*

<sup>3</sup> Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)

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*channel and channel banks. In 3/05, the channels were cleaned and contaminated soil/sediment on the channel & channel banks were removed. Channel banks were also paved to limit any further soil contamination. This activity eliminated the potential surface pathway for food (fishing in river) and recreation (in river).*

*The facility is completely paved eliminating pathways to contaminated soil for workers/trespassers.*

*Workers could be exposed to lead dust in indoor air and outdoor air, surface water and sediment in wastewater settling pond.*

*Construction workers could be exposed to lead dust in indoor air and outdoor air, contaminated soil, subsurface soil, and surface water and sediment in wastewater settling pond.*

*Trespassers could be exposed to lead dust in outdoor air, contaminated soil, subsurface soil, and surface water and sediment in wastewater settling pond.*

References See references in #2.

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4. Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to be **“significant”**<sup>4</sup> (i.e., potentially “unacceptable” because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable “levels” (used to identify the “contamination”); or 2) the combination of exposure magnitude (perhaps even though low) and contaminant concentrations (which may be substantially above the acceptable “levels”) could result in greater than acceptable risks)?

  X   If no (exposures can not be reasonably expected to be significant (i.e., potentially “unacceptable”) for any complete exposure pathway) - skip to #6 and enter “YE” status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to “contamination” (identified in #3) are not expected to be “significant.”

       If yes (exposures could be reasonably expected to be “significant” (i.e., potentially “unacceptable”) for any complete exposure pathway) - continue after providing a description (of each potentially “unacceptable” exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to “contamination” (identified in #3) are not expected to be “significant.”

       If unknown (for any complete pathway) - skip to #6 and enter “IN” status code

**Rationale and Reference(s):**

*A risk assessment was conducted and approved in 2001 that showed acceptable exposures from facility operation to onsite and offsite receptors. Additionally, the facility has a permit from the local air quality district which limits facility's emission. Outdoor air is monitored per the air district permit. Based on this, exposure to outdoor air is not significant.*

*Facility contaminant exposures to workers are not significant as workers follow facility health and safety plan and wear appropriate personal protection equipment including a respirator for facility operation.*

*Construction workers exposures are not significant as construction work requires a health and safety plan to be submitted and approved by DTSC. Construction workers are required to wear proper protection gear and have training.*

*Site is completely fenced and security is available 24 hrs/day. Therefore, trespassers exposure is not significant.*

**References**

*See references in #2.*

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<sup>4</sup> If there is any question on whether the identified exposures are “significant” (i.e., potentially “unacceptable”) consult a human health Risk Assessment specialist with appropriate education, training and experience.

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5. Can the “significant” **exposures** (identified in #4) be shown to be within **acceptable** limits?

\_\_\_\_\_ If yes (all “significant” exposures have been shown to be within acceptable limits) - continue and enter “YE” after summarizing and referencing documentation justifying why all “significant” exposures to “contamination” are within acceptable limits (e.g., a site-specific Human Health Risk Assessment).

\_\_\_\_\_ If no (there are current exposures that can be reasonably expected to be “unacceptable”)- continue and enter “NO” status code after providing a description of each potentially “unacceptable” exposure.

\_\_\_\_\_ If unknown (for any potentially “unacceptable” exposure) - continue and enter “IN” status code

Rationale and Reference(s):

References

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IN - More information is needed to make a determination.

Supervisor (signature) (See attached signature page) Date \_\_\_\_\_  
(print)  
(title)  
(EPA Region or State)

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**FINAL NOTE: THE HUMAN EXPOSURES EI IS A QUALITATIVE SCREENING OF EXPOSURES AND THE DETERMINATIONS WITHIN THIS DOCUMENT SHOULD NOT BE USED AS THE SOLE BASIS FOR RESTRICTING THE SCOPE OF MORE DETAILED (E.G., SITE-SPECIFIC) ASSESSMENTS OF RISK.**